

What Are Phillips Countersunk Screws Used For?

Engineering Hardware & Fasteners · engineeringhardware.com/applications/phillips-countersunk-screws

Phillips Countersunk Screws are used for threaded assemblies where the head drive and seating style matter. They are manufactured to ISO 7046 / DIN 965, and the choice of size, property class and finish is driven by the load in the joint and the environment it sits in.

Primary duty

Threaded assemblies where the head drive and seating style matter

Governing standard

ISO 7046 / DIN 965

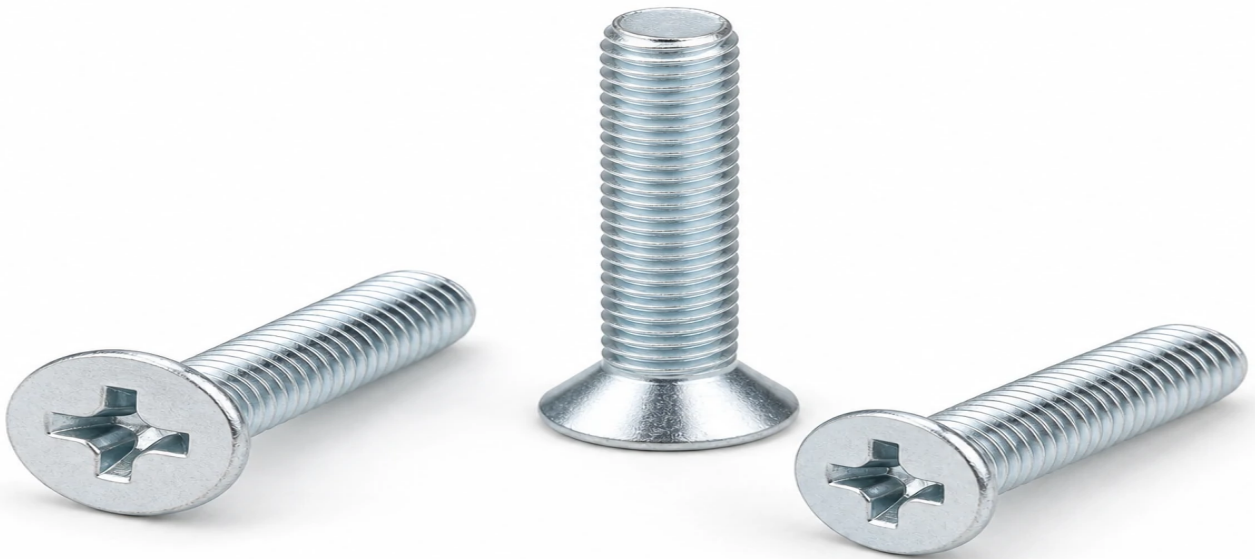
Thread size range

M1.6 to M10

Category

Screws

Application notes are general engineering guidance. Verify the property class and any approval requirement against your own design calculation.



Phillips Countersunk Screws are used primarily for threaded assemblies where the head drive and seating style matter. This page lists the industries and assemblies where they are specified, the selection criteria that matter for each application, installation practice, and the cases where a different fastener type is the correct choice. Parts are supplied to ISO 7046 / DIN 965. Stocked across roughly M1.6 to M10, they cover general to heavy-duty work.

Typical Applications for Phillips Countersunk Screws

The most common settings where these are specified:

Appliances & consumer goods: high-volume assembly with power tools and consistent seating.

Machine guarding & panels: removable access covers that are opened for service.

General machine building: fastening covers, brackets, motors and sub-assemblies on production equipment.

Maintenance & repair (MRO): a stocked size for servicing existing plant where the original fastener spec must be matched.

Fabrication & metalwork: bench and on-site assembly of steel frames, enclosures and weldments.

How to Specify Phillips Countersunk Screws for Your Application

Size: Match the nominal size to the mating thread or hole. This product spans M1.6–M10; check the full table below for the exact dimensions of each size.

Drive & head: Pick the drive (socket, cross, slot) and head style for the tool access and seating surface; a recessed drive resists cam-out under power tools.

Environment: For damp, coastal or chemical exposure prefer A4/316 stainless or a suitable coating; indoors, plated steel or A2 is usually sufficient.

Standard: This product is supplied to ISO 7046 / DIN 965. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Installation & Assembly Practice

Match the driver exactly to the recess (PH $\neq$ PZ; hex key sizes per ISO 2936) and keep the tool axial — side load is the main cause of stripped drives.

In tapped holes, engage a thread length of at least 1× the nominal diameter in steel, 2× in aluminum.

Set power tools to a torque that seats the head without embedding it into the mating surface.

Common Selection Mistakes with Phillips Countersunk Screws

Under-sizing the drive for the installation torque — a small recess at high torque strips before the screw is seated.

Using a countersunk head in thin sheet where the countersink removes most of the load-bearing material.

Specifying stainless in high-strength duty: A2-70 is roughly class 7 steel, not a 10.9 substitute.

Where Phillips Countersunk Screws Are Not the Right Choice

Not for high-preload structural joints (use a property-class bolt and nut), and not in thin sheet where a self-drilling or self-tapping type suits better.

Custom manufacturing · Made to drawing

Need a phillips countersunk screws outside the standard range?

Material and finish are usually what drives a special — a grade the standard part is not stocked in, or a coating chosen against a salt-spray figure instead of a default. Made by cold heading or warm forging.

Minimum order from 2,000 pieces; samples within 7 days of drawing approval.

Custom screw manufacturing

(<https://engineeringhardware.com/custom/screws/>)

Send a drawing (<https://engineeringhardware.com/custom/screws/#rfq>)

Technical Drawing

Customize the parameters below — every spec field is editable, and the drawing redraws to match the values you choose. Changing the size will snap the other fields to that size's standard values; you can then override any individual value.



Dimensioned line drawing of M1.6 Phillips Countersunk Screws to ISO 7046 / DIN 965. Side view and top view, drawn to the dimensions in the table below and redrawn for any size selected.

Opens a short step to confirm the exact specification before you enter contact details.

Request a Quote

Click “Request this configuration” under the drawing to confirm the exact specification, then add your contact details. You can also send the request without a specification — but only an accurate selection gets an accurate quote.

Dimensions & Specifications (ISO 7046 / DIN 965)

Size	Pitch (mm)	Head diameter dk (mm)	Head height k (mm)	Cross recess	Count
M1.6	0.35	3.0	0.96	PH0	90
M2	0.4	3.8	1.2	PH1	90
M2.5	0.45	4.7	1.5	PH1	90
M3	0.5	5.6	1.65	PH1	90
M3.5	0.6	6.5	1.93	PH2	90
M4	0.7	7.5	2.2	PH2	90
M5	0.8	9.2	2.5	PH2	90
M6	1.0	11.0	3.0	PH3	90
M8	1.25	14.5	4.0	PH3	90
M10	1.5	18.0	5.0	PH4	90

Video: What Are Phillips Countersunk Screws Used For? in use



► Watch video: <https://www.youtube.com/watch?v=QwjNyLvcXu8> (<https://www.youtube.com/watch?v=QwjNyLvcXu8>)

Third-party video, selected automatically for this topic. It is not produced by Engineering Hardware and is not a specification source — use the tables on this page for dimensional data.

Inside the plant

Manufactured in our own plant

This part is cold-formed, threaded, heat-treated and finished in-house. The stages below are where its class and finish are actually decided.



Cold heading

Wire rod is drawn to size and cold-formed into blanks. Forming rather than cutting keeps the grain flow continuous around the head, which is where a bolt is most likely to fail.

Head dimensions and under-head radius checked at set-up and per shift.



02

Thread rolling

Threads are rolled between hardened dies rather than cut. Rolled threads are stronger in fatigue than cut threads and hold pitch and flank angle far more consistently across a batch.

Go / no-go ring gauges to ISO 965 tolerance class 6g.



03

Heat treatment

Quench-and-temper brings carbon and alloy steel to the property class ordered — 8.8, 10.9 or 12.9 — with the furnace charge tracked so a finished lot can be traced back to it.

Core hardness and tensile tested per lot to ISO 898-1.



04

Surface treatment

Zinc, zinc-nickel, hot-dip galvanizing, black oxide, phosphate and Dacromet, selected against the service environment rather than against the price list.

Coating thickness and neutral salt spray hours to ISO 9227.

Frequently Asked Questions

What material should Phillips Countersunk Screws be for outdoor use?

For damp, coastal or chemical environments specify A4 (316) stainless or a suitably coated steel. For indoor or dry use, A2 (304) stainless or zinc-plated steel is normally adequate.

Are Phillips Countersunk Screws made to a recognized standard?

Yes — they are manufactured to ISO 7046 / DIN 965, so dimensions are interchangeable between suppliers when you quote the standard on your order.

What are Phillips Countersunk Screws used for?

Threaded assemblies where the head drive and seating style matter. They are supplied to ISO 7046 / DIN 965.

Which industries use Phillips Countersunk Screws?

They are commonly specified in fabrication & metalwork, electronics & enclosures and appliances & consumer goods, among other sectors.

Can I get a quote for Phillips Countersunk Screws in the size and material I need?

Yes. Use the technical drawing and quote form on this page to set the size and options, then send the exact configuration to our team for pricing and lead time.

Related Pages

Product page: [Phillips Countersunk Screws — specifications & sizes](https://engineeringhardware.com/fastener/phillips-countersunk-screws/) (<https://engineeringhardware.com/fastener/phillips-countersunk-screws/>)

Phillips Countersunk Screws Specification Guides

- **M1.6 Phillips Countersunk Screws size guide** (<https://engineeringhardware.com/guide/size/m1-6-phillips-countersunk-screws/>)
- **A4 stainless Phillips Countersunk Screws** (<https://engineeringhardware.com/guide/material/a4-stainless-steel-phillips-countersunk-screws/>)

Related Fastener Applications

- **4IP Internal Service Screws for Mobile Devices applications** (<https://engineeringhardware.com/applications/4ip-internal-service-screws-for-mobile-devices/>)
- **Ball-Ended Thrust Screws applications** (<https://engineeringhardware.com/applications/ball-ended-thrust-screws/>)
- **Bicycle General Threaded Fasteners applications** (<https://engineeringhardware.com/applications/bicycle-general-threaded-fasteners/>)
- **Bicycle Spoke Nipples applications** (<https://engineeringhardware.com/applications/bicycle-spoke-nipples/>)
- **Button Head Socket Cap Screws, UNC applications** (<https://engineeringhardware.com/applications/asme-b18-3-3a-unc-button-head-socket-cap-screw/>)
- **Button Head Socket Screws applications** (<https://engineeringhardware.com/applications/button-head-socket-screws/>)